

CODIB-D-111/1.2/3
23 August 1965

UNITED STATES INTELLIGENCE BOARD
COMMITTEE ON DOCUMENTATION

Report: Task Team II - Item Identification

The attached report is distributed for detailed study prior to discussion at the sixty-fifth meeting, to be held later in September. The report deals with one of the gut-elements that must be understood if we are to make real headway in information exchange among agencies.

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Secretary

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T/II/R-1
13 August 1965

UNITED STATES INTELLIGENCE BOARD
COMMITTEE ON DOCUMENTATION

TASK TEAM II - ITEM IDENTIFICATION

MEMORANDUM FOR: Chairman, Committee on Documentation

SUBJECT: Transmittal of Task Team II Report

REFERENCE: CODIB-D-111/1.2/2, 25 November 1964

1. Transmitted herewith is the report of CODIB Task Team II, Item Identification. This report is the result of 22 meetings of the Task Team (beginning on 13 October 1964), a good deal of homework on the part of team members, and staff analytic assistance from the CODIB Support Staff.

2. A list of participating members is attached, indicating extent of participation in meetings. The Team worked together as a group of interested and knowledgeable people and not as representatives of particular agencies or departments. Departmental coordination was expected to take place after the report is submitted to you.

3. CODIB's original charge to the Task Team was a double one: a. develop and publish a standard item list and, b. develop and implement standard item description elements. The Team has responded to "a" by proposing an Item Register System (Recommendation A-B), together with an implementation plan and resource estimates. The Team feels that "b" can best be accomplished during the establishment of an Item Register System and so recommends in this report (Recommendation C).

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4. In Recommendation D the Team proposes its own dissolution. The Team will therefore not engage in further activities until CODIB has acted upon that recommendation.

5. The report consists of five sections: a brief summary of conclusions and recommendations (Section I), an introductory section discussing the problem and relating the Team's approach to other possibilities and Task Teams (Section II), a discussion of the basic elements of a proposed solution to the problem (Section III), a proposal for an Item Register System, together with an implementation plan, resource estimates, and consideration of system alternatives (Section IV), and specific recommendations (Section V). In addition, six informative appendices are attached. A special-channels supplement to Appendix 3 and Appendix 4 will be forwarded separately.

6. I would like to take this opportunity to commend to you the fine work done by all concerned, both those on the Team itself (including those assisting from the CODIB Support Staff) and those in the agencies who supported them.

7. I also feel it my duty to give my own impressions of the adequacy of this type of organization to do this type of work. As stated in the Terms of Reference (Referenced above), the overall task was "to prepare gross alternative plans for an operational system, (which) would be difficult to accomplish without some full-time assistance and continuity." The CODIB Support Staff has provided a good deal of this staff-analytic capability, without which the Team report might never have been finished. However, I would like to state here as my personal opinion (not necessarily reflecting the views of the Team) that a part-time, ad-hoc group is not the best instrument for system design activities. The use of a committee is most valuable in bringing together diverse backgrounds and experiences to advise, guide and evaluate such activities, but the actual design work is best done by full-time staff personnel.



Chairman, CODIB Task Team II

Attachments:

- a. List of participants in Task Team II work
- b. Task Team II Report

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Participation in Task Team II Activities

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State

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*Mr. Curtis L. Fritz (9 meetings)

*Mr. Robert F. Whipp (9 meetings)



Air Force

*Lt. Col. Robert R. McAnaw (all meetings)

Army

*Mr. Robert D. Baxter (14 meetings)

Mr. Charles L. Johnson (meeting 6)

Navy

Mr. D'Armand Dochez (meetings 6 and 7)

LTJG Glen A. Lillquist (meeting 6)

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*Participated in a substantial number of meetings and agrees (as an individual) with the substance of this report.

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UNITED STATES INTELLIGENCE BOARD
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TASK TEAM II - ITEM IDENTIFICATION

Report

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Appendices

1. CODIB-Approved Terms of Reference for Task Team II
2. SCIPS Survey Coverage
3. Item Identification Control Systems
4. Item Identification Lists
5. Sample Pages of an Item Register List
6. Suggested Input Card Format

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I. Summary of Conclusions and Recommendations

Information handling in the Intelligence Community is characterized by large and growing investments, a steady increase in the quantity of information, both incoming and in files, occurrence of more and more fast-reaction requirements and an increased application of intelligence to areas outside the Community itself.

In this dynamic environment, the vast majority of information and intelligence is provided in the form of "documents". Many of these are issued and distributed as series. These documents are received and processed by many organizations and, in a certain sense, tie the Community together. However, in order to take advantage of this aspect, we must be able, in many different processing systems, to identify these items commonly and to call each by the same name. A further requirement is to be able to categorize or classify these items for different end-use purposes, and to be able to refer to the same categories of these items in different information systems. We have used the phrase "item control" to refer to these needs.

The need for item control derives from the need to manage information processing activities (collection, communication, dissemination, storage, retrieval, manipulation), the need to design more effective information processing systems, and the need to communicate effectively between processors, users, system designers and managers. With respect to system design and information-exchange uses, the need is to describe efficiently, simply and accurately the inclusion and exclusion of information content in a given file or information system. Not until we can accurately and definitively describe the scope and content of our information systems can we hope to have more useful interchange between systems. Neither can we usefully identify and eliminate duplication of information processing until we have a means of item identification on a common or comparable basis. Without comprehensive and standardized inventories of information items, users cannot have nor be given assurance that all available information resources have been brought to bear on a given intelligence problem, estimate, or analysis.

Before we can solve all the problems involved in linking community systems together through data exchange at the more detailed level of the actual information content of files or items, we need to have gross common handles on the items that flow between organizations. Item control at the series level, addressed by Task Team II, therefore, does not directly provide,

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but is a prerequisite to, better control of the information content of intelligence issuances, either through shallow-level content control of the substantive contents of documents (as planned by Task Team I) or, later, coordination of deeper information-level control, as in deep-indexing retrieval systems. The Team, therefore, feels that its proposals for an Item Register System should be considered now, since many further improvements within the Community could be assisted by such a system (See Section II and IV).

The Team identified the essential elements most nearly meeting the criteria for unique identification of items (Section III). These include a minimum list of data elements such as originating organization, title, classification, unique reference number, etc. (Section III A 1 and III A 2) and devised a categorization scheme to be used for fully identified items to provide a capability for grouping them to serve different purposes (Section III A 3). In Section IV the Team integrated the elements into a proposal for an Item Register System with the following general characteristics:

1. Decentralized input by producers of requisite information by the producers of the item.
2. Centralized processing of input information and maintenance of an authoritative item register and descriptive data base, and,
3. Diversified form, formats and orderings of item information to satisfy a spectrum of uses, including catalog-type print-outs, special bibliographies, and ad-hoc query responses.

The initial system is envisioned as one uniquely controlling and identifying some 5000-7000 items at the series level. Preliminary manpower and cost estimates for the system, for designing, testing, evaluating and to reach operational capability in about six months, include 28 man-months of analyst and programmer time, 12 man-months of clerical support and 170 machine hours (based on an IBM 1410). Once the design, testing, evaluation and build-up is complete, it is estimated that maintenance of the item register, production of periodic products and servicing of ad-hoc requests will require an estimated 10 machine hours per month, one half of one analyst's time and one fourth of one clerical's time (See Section IV C). Full evaluation by the Community users is provided for during the build-up period (Section IV B).

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Several alternatives to an Item Register System are discussed by the Team (Section IV E), but judged less adequate. Team members proposed the Item Register System as a solution which does little or no violence to local systems, but which provides a unique and simple capability for system-to-system interchange of information about intelligence items. On this basis, other improvements in the future can be more solidly built.

The Team's recommendations can be summarized as follows: implement the Item Register System (including community evaluation) by assigning the task to one agency as a service of common concern (Recommendations A and B), assign the task of further standardization of bibliographic elements to the implementing agency chosen, to be performed when the Item Register System is a going operation (Recommendation C), and disband the present CODIB Task Team II immediately (Recommendation D).

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II. Item Control

The U. S. Intelligence Community is large and diverse. There is a great deal of information processing going on every day. The costs of this processing can be indicated (if not precisely determined) by some of the SCIPS findings.

The SCIPS survey identified hundreds of intelligence components which receive, process and produce thousands of intelligence items each year. Many of these items are issued in series, some of them at regular time intervals: daily, weekly, monthly, etc. In the aggregate, they result in several hundred thousand issuances per year. To fulfill requirements, millions of copies are produced each year.

While all of the SCIPS survey data is now more than two years old, it appears safe to assume that the magnitude of the Community products dissemination operations has not diminished. Indeed, the figures developed by SCIPS are quite conservative since in many cases they do not reflect secondary or subsequent reproduction of copies of issuances made by recipient organizations.

The size of the Community in terms of organizations, items, processes and people can be indicated by Appendix 2, taken from the SCIPS report.

Task Team II's initial objective was to specify requirements for item identification. Growth in the volume of information collected, processed and produced together with drastic reduction in time available for response has resulted in increased functional specialization within the intelligence field. Examples of such specialization include establishment of photo and elint exploitation centers, science and technology centers and current intelligence, indications and warning centers. Such specialization has sharpened the focus of interest and enhanced timely response to programmed requirements. It has also imposed requirements for increased coordination and integration of information and intelligence at national command levels.

Many personnel representing professions and techniques not previously associated with intelligence have entered the arena, including those from such areas as operations research, system engineering, and automatic data processing. In military organizations, there has been influx of personnel with predominantly operational backgrounds. At the same time, requirements for intelligence support by organizations outside the Community have increased. Examples of these increased requirements can be found in war-gaming, force structure planning, command and control of forces, military aid programs, and many more.

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Management at all levels in the Community is faced with immense problems relating to the coordination of work, the most economical use of resources, planning for the future, etc. Basic elements of the Community include organizations and their missions, people, equipment, "items" (the objects of information processing), item flows and processing procedures. Organizations have different missions, but there may be similarity in some of the other elements. Many different organizations, for instance, perform the process of indexing. Such processes are performed to support the different missions of the organizations, and so may differ as the missions differ. However, many "items" produced by one organization are disseminated to other organizations engaged in analyzing, producing, and controlling information. The use of these items may be different in the different organizations, thus a single item cannot usually be considered only in relation to its original purpose. This situation can be a source of strength, since it is obviously better to try to use products for many different purposes than to generate even more "items" by confining each to a single type of end-use. However, this situation has its own inherent dangers of duplication in the processing activities -- that is, similar processes (even though for different purposes) may be performed in several activities on the same "items". There is a ray of hope, however, in that this situation can give rise to cooperative arrangements that cut down on the duplication and release resources for other jobs. It should be possible to build on the fact that the flow of "items" forms a thread that ties the Community together in an otherwise pluralistic environment. The solution then lies in the control of the "items" themselves so that improvement can be based on the fact that they are received and processed by many organizations.

In past years emphasis has been placed on control at the organization and policy level (DCID's and other Community-wide directives, CODIB action, departmental policy and organizational control, etc.) and, at times, on a very deep level of information control (standardization of name-check forms, compatibility of detailed indexing schemes, etc.). A middle-level effort, based on the information-bearing items that tie the Community together has been less evident. This is, we feel, a gap that needs filling. If control is exercised at the highest, policy level alone, the various organizations in the Community which thereby have their boundaries and functions delineated for the common good will still need, to a great extent, to process the same types of "items". Unless these items are precisely identifiable in the various using and processing units so that their use can be followed from unit to unit and each can communicate easily with the others about them, both divergence and overlapping may continue between

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organizations no matter what the policy directives say. Without the ability to identify items precisely, the advantages provided by the appearance of many of those items in different processing units may be lost, leaving only the danger of duplication and wasted effort. Similarly, the success achieved in developing and maintaining standard methods of representing and processing at the deeper levels of information content may well depend on the availability of precise item level identification.

Knowledge of what is sent and received, by whom, and what is processed and where, is vital for management of Community assets. We shall call this item control. This control, as indicated above, can be established at various item levels. A somewhat oversimplified list follows:

Series level - Identifiable and describable groups of individual issuances having various elements in common, including originating organization, title, frequency, originator's purpose, and degree of processing performed to produce the issues. Elements of control at this level are mostly evident in the document issuance header, but some elements (particularly the degree of processing performed) may not appear on the document at all. Control, identification and description at this level not only facilitate overall managerial planning and control of the Community resources, but also speak directly to the need of the processing organizations themselves in communication with each other to perform their function of providing the "end user" with the information he needs. Thus, for instance, dissemination units often can distribute to their customers on the basis of the header or series-type information (sometimes called "standard distribution" or "subscription-type" distribution as contrasted with "content dissemination").

Issue level - Individual issuances of the above series plus one-time monographic publications which are disseminated according to the content of the individual document. Elements of control at this level are found both in the header of the issuance and in the text itself. The using analyst serviced by the processing units usually describes his need in terms of subject and area content of the documents he wants, and the processing unit (if dissemination is the process) examines every issuance and analyzes both header and content to decide if the analyst needs the information. Most storage and retrieval processes depend on the issue level or even further, the informational content level within each issuance.

Task Team I is examining possible aids to content control at the issue level, at a relatively shallow substantive level intended to be useful for

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dissemination and perhaps at least some storage and retrieval operations. Their effort is not intended to solve all the problems of deep indexing for retrieval, but it is at least addressed to the issue level, where the concepts of subject and area control are perhaps best applied, and where there can be a more direct application to the analyst needs.

Task Team II, on the other hand, addresses the control problem at the series level. This control will serve the managers directly, will greatly aid the system designers in identifying and categorizing that which is to be processed in various different ways, and will aid the disseminators and storage and retrieval systems in their problems of identifying documents not produced locally. This will be an indirect benefit to the using analyst.

Having sketched out the general problem, distinguished between different levels of control, isolated item control as our theme, and further indicated at what level this team approached that theme, we can perhaps redefine the problem: Basically, since information for intelligence purposes flows in "documentary form" and in potentially identifiable "series", and since it is used by many organizations for purposes often far beyond that intended by the issuing organization, a fundamental requirement is to be able, in many different information processing systems belong to different organizations with different missions, to identify these items and to call each by the same name. A second problem lies in the standardization of the elements used to identify and describe these items. In so far as element standardization applies to the identification problem, our judgment expressed in the Task Team Terms of Reference (Appendix 1) still holds: It is better to begin with a registration of a minimum number of elements for common identification purposes to form a base for further standardization of other elements, than to attempt to standardize on all header elements at once.

The Task Team examined SCIPS data and experience to ascertain progress being made in the Community on item identification and also conducted limited fact-finding of its own. These efforts revealed that most organizations are quite clear in recounting the processes which they apply to intelligence items. However, many organizations find it more difficult to itemize what is received from whom and to identify precisely which items receive what processing. In some cases readily accessible knowledge of inputs was confined to generalizations such as "we process all information reports received" or, "all reports containing personality information from all sources." Further investigation into either items processed or their sources usually reveals that "all" is really "some, unspecifiable" and that to define the word "some" may require detailed file analysis or in other

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cases protracted interception and documentation of items at receipt points. Knowledge of what items receive which processes is necessary to make significant comparisons between processing occurring in USIB agency components. This was particularly true when SCIPS attempted to specify the transmission of documents between processing units. The inability to specify items in a standard manner during data acquisition resulted in time-consuming man and machine operations to establish item/process associations which would, in turn, provide insights into both formal and informal community relationships. (See Volume V of the SCIPS report for detailed discussion.)

The Team also considered a previous CODIB-sponsored effort: The Union List of Intelligence Serial Publications, produced in 1957 and updated in 1959. This publication contained many elements for item identification and control as well as free text description of the serial's general content and purpose. However, it was limited in the serials it covered, and it was not published again after 1959. The value of such a tool depends on its comprehensiveness and on its currency. The Union List was published without a method for updating or expanding.

During its deliberations, the Task Team also collected information on existing publication lists, indexes and catalogs, and on existing item control systems. A description of systems and lists, not intended to be exhaustive, is contained in Appendices 3 and 4. An examination of these shows that many organizations feel the need for control of items at the series level. Many produce catalogs of their own publications. Some have found it necessary to control some of the header elements of the publications of other organizations in order to process, disseminate, index and find the items of interest to them in a uniform manner. The information in Appendices 3 and 4 shows, however, that although many elements are used in common in the different lists or systems, the use or method of representation of those elements differs so widely that the user has great difficulty in putting them together. Such an examination also shows, however, that the total number of elements needed for identification may be rather small, and that most, if not all, of these elements already appear on such lists. This augurs well for a further effort to standardize for common interdepartmental identification purposes.

The limitations of past or existing efforts towards community item control, as seen both in the SCIPS effort and in the Team's fact-finding, become design features for a new effort at item control in the Community which would be

comprehensive in coverage,
standardized in form,

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dynamically maintained,
serving a variety of uses, and
readily accessible in form and content.

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III. System Elements

This section will present and discuss the Team's findings concerning the basic elements of a further effort in item identification and control. These are: essential elements of information, categorization of series used for intelligence purposes, and item level. These elements are then combined to produce sample pages of an item list. Finally, inclusions and exclusions are considered.

A. Elements of Information.

1. List of Elements.

The Team began with a consideration of the basic elements of information needed for identification and minimum description of items. It was found that various processing units in the Community use different combinations of elements to make unique identification of items, but that these combinations might differ between units and that even if the elements were the same, the method of representation of those elements might differ widely. What is lacking is a tool which relates to each other those elements used in the Community for identification purposes so that cross-talk can be facilitated. Further, it was felt that the provision of additional descriptive elements (beyond those needed for unique identification) would serve the purpose of assisting in the decision of inclusion or exclusion of items in end-use, system management or design situations from particular use viewpoints.

The first task, then, was to identify and list those elements most commonly used for identification purposes, to test these in a live environment to see what problems of identification might arise, and then to decide on a minimum number of elements necessary to relate the efforts in a number of producing units to identify items uniquely (to be called "required" elements) and to list those other elements which might aid the user most in management or design situations ("desired" elements).

A survey of approximately 250 intelligence documents was conducted. A substantial number of SI documents were included in the survey. The test provided further definition of item and element characteristics as a basis for final element selection. For example, it was found that producer at the agency level, and sometimes major component level within agency did not provide sufficient definition even in association

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with series level title. Also, it was discovered that certain series designations were actually aggregations of unique items. Even so, a series designation or short title such as [REDACTED] etc. was of significant value when used in conjunction with the exact title of the item and its producer. In a similar vein, the use of a standard form such as DD Form 1396 by producers in various agencies or components was a significant factor in identification and description. Following the item identification test, Team deliberation resulted in the following list of required and desired elements:

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Required

- a. Exact title of item
- b. Classification of title
- c. Series designation and control, if any
- d. Producing agency or department, major component thereof, and lowest organizational level identifiable from the item itself
- e. Range of security classification applied to item
- f. Dissemination control applied to item
- g. Item status, i.e., is the item currently being produced? If not, inclusive dates of publication.
- h. Unique reference number.

Desired

- a. Short title of item, if any and its security classification
- b. Frequency of issuance
- c. Form(s) in which produced
- d. Categorization of item
- e. Remarks.

Most of these elements can be used for both identification and description in the sense used here. Identification leads to the setting off of one item from all others so that clear and unambiguous communication about that item can take place in different systems using different vocabularies. Description not only helps to define unambiguous identification, but also lends itself to the formation of classes of items which can, in many management and design situations, greatly help by eliminating the need for repetitive examination of every individual item. For instance,

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the element "security classification" can be used a) to help distinguish two different items similar in other respects, as different classification editions of the same unit's product and b) to help form a class for inclusion or exclusion purposes - as in the situation where a system is being managed or designed which will not include any items above a certain classification level. The list above contains two elements not now appearing on items, (unique reference number and categorization) each of which speaks to one of these two general uses.

2. Unique Reference Number.

The need for a unique reference number grows from the basic need to identify an item unambiguously and the fact that this need is now met in so many different ways in different processing units. If two processing units need to communicate with each other about items (for instance, to borrow them from each other) and if each has a slightly different system of uniquely identifying those items, they will usually (if the communication need is frequent enough) set up cross-reference files or lists to the system of the other unit. The elements listed above will uniquely identify items at the series level for most purposes and most processing units. A shorthand method of referring to the item so identified is needed for communication purposes (e.g., for secure telephonic communication) as well as to represent a clear and definitive identification decision: "This collection of elements stands for this particular item and no other." It was felt by the Team that although any combination of the elements now in use could perform this function, a new element should be created that would have only this role to play. Various processing units would then not be required to set up new files or cross-reference lists but could rely on one single cross-reference system from their own local identification system to one common to all.

These considerations (security of communications and the need to hold down the growth of new cross-reference lists or files) led the Team to opt for a unique reference number which would represent the result of an identification decision, and which would contain in its method of representation only the meaning that this item is no other item. It was felt that attempts to build more meaning into the number (such as originator, security classification, content, etc.) might encourage many processing units to set up new files or cross-reference lists of their own on this number, which would simply add to the costs without gaining anything in power of identification.

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The Team therefore concluded that an authoritative item list operating at the "series" level, containing the elements listed on page 11 could remain relatively stable (perhaps a few hundred changes per year) and should provide a unique reference number which should be meaningless without a copy of the list - perhaps assigned sequentially to a random sort of the list. It is quite possible that after the authoritative item list has been in use for some time, producers and users will find each other's techniques of identifying and describing items quite useful. This will, however, evolve very slowly and may never be complete. In the meantime, a unique reference number applied in a standard manner will tie the different identification/description systems together and enable these systems to reference and discuss each other's items expeditiously via any communication medium.

4. Categorization.

As mentioned above, elements of information for identification-description purposes have two types of use: discriminating between different items (identification) and class-forming. The unique reference number just discussed relates to the first of these uses; the second new element ("categorization") relates to the second. The purpose of class-forming is first of all to provide a definitive way of describing item inclusions and exclusions for an authoritative item list or register system. In addition, many similar uses will be found for the same capability: to aid the manager in identifying similar types of items for analysis of coverage, overlap, prospective integration, etc., to aid the system designer in breaking down the large volume of items into smaller groupings of similar items for analysis of content, purpose, etc., to indicate the nature and scope of source materials utilized in production of a given item, and to aid in permitting or precluding release of items as a class where, when, and if appropriate.

Such class-forming or categorization is useful to avoid the necessity of continually re-examining every single one of many items. It therefore should be based on proper inventorying and identification of the items. We can use a number of elements of information to produce unique identification of items, and then categorize those items so that this unique identification can continue to be useful even without examining every one. Some of the elements listed on page 11 serve both these purposes: they help to identify an item uniquely, and can also be used to class numbers of identified items. Thus we can group the items by originating organization, by security classification, by frequency, by dissemination control, etc.

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The Team found, however, that one aspect of class-forming was not clearly addressed by these existing elements. Even knowing the title, originating organization, classification, etc., of an item does not always tell the user where in the intelligence cycle the item was produced. Thus the degree of processing that resulted in the item is not always apparent. To some extent users can determine this from the content or from more intimate knowledge of the producing organization's mission and function, but those further removed from the originator do not always possess such knowledge. Even if, on the issue level, the item is represented by subject and area indicators, this does not necessarily distinguish between, for instance, the result of translation activities performed on foreign publications on the one hand, and considered analytic evaluation of that material on the other.

The Team therefore developed a simple categorization scheme intended to complement other class-forming elements to make the authoritative item list (once the items are uniquely identified) a more useful tool. It was noted that the categories "raw" and "finished" in wide use in the Community were not sufficiently defined, so that one man's "raw" could be another man's "finished". However, as a first cut, this existing categorization both indicates the need for this class-forming ability and serves as a point of departure. The Team began by establishing three major categories:

Substantive

Information items of potential intelligence value, products of intelligence research and analysis, intelligence estimates and projections.

Substantive Support

Items which are developed to support effective acquisition, processing, production, maintenance, storage and retrieval of substantive information and intelligence.

Non-Substantive

Items of an administrative or operational nature occurring in intelligence organizations which

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are not otherwise associable with substantive information or intelligence.

The general concept of categorization of substantive intelligence items was the type and amount of processing applied in creating them. Restated, the rationale for placing an item in a particular category is the type and amount of processing which has been applied to an item from the time information is acquired and reported through numerous as well as various processes until it may be blended, with or without attribution, into a national estimate or projection. This sequence may involve a process such as developing a latent image on film, translation of a foreign language document, or preparing a textual report of a visual sighting. It may require technical processing and analysis of related sets of analog data as in elint, acoustint, or seismint processing. The products of reporting and technical processing are synthesized and analyzed to produce basic forms of intelligence. That is, the "who/what is where" and the "how many" or "how much". Additional substantive analysis is usually necessary to postulate the "why" and "so what" phase of intelligence production. The latter may be produced on the highest levels as a national intelligence estimate or projection.

A logical extension of the processing concept of categorization beyond this point would carry us into the realms of application of intelligence to military operations, personnel requirements--both qualitative and quantitative--materiel procurement, logistics, research and development, etc. This extension was not attempted by the Team, even though the insights provided thereby might be significant in defining, developing and maintaining appropriate intelligence response patterns.

The category scheme which was ultimately selected by the Team as suitable for the purpose of supporting the creation and maintenance of an authoritative item register consists of the following categories, subcategories, modifiers, and their notations:

a. Substantive Items (10)

Items containing information of potential intelligence value such as information on people, their activities and relationships; products, product characteristics; installations; locations, events; situations, etc. Also items resulting from

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the technical and substantive analysis of this information and intelligence estimates and projections based thereon.

(1) Textual Collection Products (11). Items containing information of potential intelligence value which are in their original form as first received or generated, and that form is textual. Examples are attache reports, interrogation reports, clandestine service reports and foreign publications in their original form.

(2) Technical Collection Products (12). Items containing information of potential intelligence value which are in their original form as first received or generated, and that form is non-textual. Examples are photographs, analog and digital recordings and materiel for analysis.

(3) Technical Processing Products (13). Items resulting from processing of collection products. Such processing is primarily intended to provide the information original item in a more comprehensible form for a substantial number of users. Examples are translations of foreign language publications, photo interpretation reports, materiel analysis reports, factory markings analysis reports and NSA end-product.

(4) Studies and Intelligence Reports (14). Items containing conclusions based on analysis/synthesis of pertinent information contained in collection products and products of technical processing available from "most" sources/methods of acquisition. These items usually reflect the results of particular investigations or analyses, may contain conjecture but usually are not estimative as to national or international impact. May be departmental, inter-departmental or national in scope. Examples are economic, political and scientific analysis reports; area studies; biographic analysis reports; orders of battle; intelligence briefs, bulletins, reviews, summaries and digests; photo intelligence reports which reflect the use of other than photo source materials; intelligence surveys and inventories; target and other graphic intelligence materials.

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(5) Estimates and Projections (15). Items containing conjecture and calculations based on available intelligence which address purposes, intentions, capabilities and vulnerabilities of hostile and friendly powers. May indicate possible courses of action, both friendly and hostile. Examples are departmental and national estimates, programmed and/or ad hoc; projections of capability: economic, industrial, military, scientific, etc.

b. Substantive Support Items (20)

Items which support the management, acquisition, processing, production, storage and retrieval of substantive items. May incidentally contain substantive intelligence related to their support purpose.

(1) Research and Reference Aids (21). Items which are created to identify (and refer the user to) substantive items or to file holdings thereof. Examples are bibliographies, item or file indexes, title listings, tables of contents, abstracts, extracts or summaries of items or file holdings.

(2) Requests and Requirement Items (22). Items which reflect user needs for information items to be collected and reported, for items to be disseminated, for files to be searched and items retrieved, for research and substantive analysis. Examples are collection requirements and guides, dissemination lists, file index searches, requests for analytic studies, estimates and projections.

(3) Substantive Management and Processing Aids (23). Items supporting the management of substantive information acquisition, processing and production activities. Examples of management items are directives, plans and programs, status reports, product inventories. Examples of processing items are code books and coding manuals, standing operation procedures, operating schedules, dictionaries, glossaries, machine programs, etc.

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c. Non-Substantive Items (30)

Items of an administrative or operational nature which deal with such subjects as personnel, facilities, logistics, physical security, etc. of the U.S. Intelligence Community.

d. Modifiers

The following modifiers are applicable to all categories. They provide additional discrimination with a minimum number of categories. In connection with an item register, the modifiers Counterintelligence and Domestic Subjects are most apt to be used for exclusion purposes. The modifiers Foreign Publications, Current Intelligence Items and Collations are most apt to appear in association with items to be included in an item control system. Note, for instance, that the products listed under "collation" below bring together information that results from different levels or types of processing - they belong to different class categories [5(a) and 5(c) - Technical Processing products, 5(b) and 5(d) - Studies with Current Intelligence modifier, 5(e) and 5(f) - Studies, 5(g) - Research and Reference Aids]. Hence the use of a modifier for collations, instead of a new class.

(1) Domestic Subjects (D). An item containing substantive information about United States citizens, their activities and relationships; products, product characteristics; installations, locations, events, situations, etc.

(2) Counterintelligence Items (X). An item generated by activities established to counteract enemy intelligence activities. Usually deal with enemy intelligence methods, techniques and activities.

(3) Foreign Publications or Derivatives Therefrom (F). Items which may be an open source foreign publication, a translation thereof, in whole or in part or other items directly associable with the acquisition and processing of foreign publications.

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(4) Current Intelligence (C). Items designed and distributed in a manner to provide up-to-date information or intelligence to the recipient.

(5) Collation (L). Substantive information or items grouped together on some basis such as time, location or subject content or purpose can be narrative or tabular, factual or evaluative. Examples are the following:

- (a) Survey of Communist Bloc Broadcasts
- (b) Current Intelligence Digest
- (c) Galena Report
- (d) DIA Intelligence Bulletin
- (e) Target Data Inventory
- (f) Bombing Encyclopedia
- (g) Intelligence Publications Index and
- (h) Consolidated Translation Survey.

B. Item Level.

Section II of this report distinguished between issue level and series level of "items." The identification/description effort we are discussing centers around the series level. However, there are many specific questions that arise when trying to define just what the series level is. For instance: what is an issue and what is the series if the NIS is being considered? Is the NIS itself the series, and each section of each chapter of each area an issue? Or are there several NIS series, perhaps one for each area or one for each chapter? It is obvious that decisions of this type will materially affect the size (and therefore the costs) of an authoritative item list. The item identification test carried out under the Team's auspices was of substantial assistance in considering what might be an appropriate item-level for entries in an authoritative list. It was apparent that the establishment of such a list at the issue level would result in hundreds of thousands of line entries, some of which would change each day. The series level appeared promising even though the SCIPS experience indicated that such a list might involve several thousand line entries. In addition there exist many intelligence items which should be incorporated in an authoritative item list which are not issued in series.

It was decided that the series level would be used for recurring products, and groups of individual titles would be listed for non-recurring

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products. At the same time, it was acknowledged that adjustments in this general concept of item level might be required as the list was being developed and additional items or series designations were encountered.

The decision to develop the list at the series level created several second order problems. Acquisition of certain descriptive elements cannot be done solely by inspection. For example, security classification and dissemination controls may vary from issue to issue, therefore the range of classification and dissemination control which have been applied to items in the series, or might be applied thereto, must be reported by the producer and may be subject to change from time to time. Provisions must be made for timely reporting of such changes to avoid misrepresentations in the list. Also, frequency of publication may not be manifest from an inspection of a given issue or even several issues and must also be specified by the producer. The same is true concerning variant orders, forms and formats in which an item can be obtained from the producer.

In view of these problems the Team decided that the design, development, implementation and maintenance of an authoritative item control system would probably require continuing contributions from item producers and a central reporting point for maintenance of the item register and for providing service therefrom. Further, many of the detailed decisions concerning what is a series and what is an issue can only be made concretely in the context of building an item list. On the other hand these decisions will affect the costs of the list itself. This consideration influenced the Team in its decision to recommend an early evaluation step during the initial operating period for the item control system (see below under Recommendations) before full operational implementation. The following discussion was thought helpful as a guide to those who would make the concrete decisions during such an initial period:

There are a number of guides which aid in defining item level. One is represented by the utilization of standard report forms such as is often the case in collection reporting. An example would be Air Force reporting on DoD form 1396.

Another guide is the existence of series designators which are applied to many categories of intelligence documents issued in series. The designator is usually a set of numbers or letters. These designations sometimes serve the purpose of short titles of the series. Examples are NIE (National Intelligence Estimates), SNIE (Special National Intelligence Estimates), BR (Biographic

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Report). In other cases, the series is designated by a name, e.g., Technical Memorandum or Propaganda Report followed by a numerical designator (e.g., Vol. II Issue 33) or title (e.g., "Soviet Attendees at the Fifth International Conference") for each specific issue. In these cases we deal at the series, not the specific issue level.

Originator is also a critical factor in unique item identification. Many series have identical series designators but are issued by different organizations (e.g., Intelligence Briefs, Intelligence Summaries, etc.). Each such series designator in conjunction with its originator should be a separate line entry in the item register. In cases where these items are issued daily and also weekly, monthly, etc., each daily, weekly, etc. will be an individual line entry.

Security classification and dissemination controls applied may also cause item discrimination when "sanitized" versions are in fact issued. In such cases, the versions have different content, different dissemination patterns and different processing.

On the other hand, a change in physical form without change in content is not a criterion for creating a separate line entry in the item register. Variations in form are indicated in the descriptive elements of the item control system.

C. Sample Item List.

The elements of information discussed above, including unique reference number and categorization, applied to items at the series level (not completely defined as yet but sketched out in the guidelines above) enable us to provide a sample of what an authoritative item list might look like. An example is given in Appendix 5 and is meant to be illustrative of the kinds of information to be carried, and not definitive. A number of further detailed decisions would still need to be made, such as further specification of exact method of representation, use of codes or abbreviations, field lengths, etc. It is felt that these decisions can best be made in the live environment of an initial build-up of an item control system.

D. Scope.

How many different types of items should be covered by an authoritative item list? The conclusion drawn above and from past experience

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is that the list should be comprehensive. Its usefulness may depend on this factor. However, just what does this mean in terms of which items to include? Here the Team decided that no exclusions should be made on the basis of security classification alone. In other words, all feasible levels of classification, from unclassified up, should be included. In principle, no originating organizations' products should be excluded if they are used in the production of intelligence. (This principle holds even though the details of drawing the boundaries may be left to a later evaluation of a live item list.) But even if all originators and all security levels are eventually included, what types of items should be included within these limits?

Here the Team made use of the categorization scheme (see III A 3 above) devised as part of its effort. Subject to community requirements expressed after an initial evaluation of an operational item control system, the Team felt that 1) all "non-substantive" items should be excluded; 2) all "domestic subject" items should be excluded; 3) within the counterintelligence items, only the classes "studies" and "estimates" and all the "substantive support" classes should be included, but textual and technical collection products and technical processing products should be excluded. The inclusions/exclusions can best be indicated by the following table, expressed in terms of the categories and modifiers set forth in III A 3 above:

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Categories	Inclusion	MODIFIERS				
		D	X	F	C	L
		Domestic Subjects	Counterintelligence Items	Foreign Publications or Derivatives thereof	Current Intelligence Items	Collations
Substantive Items <u>1/</u>						
Textual Collection Products	X	0	0	X	X	X
Technical Collection Products	X	0	0	N/A	X	X
Technical Processing Products	X	0	0	X	X	X
Studies & Intelligence Reports	X	0	X	X	X	X
Estimates & Projections	X	0	X	X	X	X
Substantive Support Items <u>2/</u>						
Research & Reference						
Service Products	X	0	X	X	X	X
Requests & Requirements	X	0	X	X	X	X
Substantive Management and Processing Aids	X	0	X	X	X	X
Non-Substantive Items	0	0	0	0	0	0

LEGEND

X = Some coverage

0 = No coverage

FOOTNOTES1/ Excluding maps and photos as such (But includes PI reports, or items about foreign mapping, bibliographies, indexes, etc.).2/ Excluding intermediate products (those that do not go beyond the organizations creating them.)

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IV. System Integration and Alternatives

We have discussed (Section II) the problem of item identification and its relation to other efforts at community rationalization, and, in Section III, have laid out some basic elements of a proposal for a new effort to fill some of the gaps mentioned in Section II. It remains to integrate these elements into a system proposal (Section IV A) to provide an implementation plan for the proposed system, identifying and describing functions and tasks to be performed as well as attendant processes and resulting products (Section IV B), to give preliminary cost estimates of manpower and equipment required to implement the system (Section IV C), to discuss various options for performing these functions (Section IV D) and, finally, to discuss some alternatives to the proposed system (Section IV E).

A. Proposal for an Item Register System.

After listing and discussing the specific elements of a possible solution discussed in Section III, the Team felt that the preferred solution would be the creation of an Item Register System. The general characteristics of this system are

1. decentralized input by producers of requisite information on items as specified in Section III A of this report,
2. centralized processing of input information and maintenance of an authoritative item register and descriptive data base,
3. diversified form, formats and orderings of item information to satisfy a spectrum of uses to which such information might be put.

Inputs will be information on intelligence items which are produced or processed by member-agencies of the United States Intelligence Board. Input items will be included according to the table in Section III D of this report.

Another aspect of inclusion in the Item Registry System is that of the security level of the operation. It is felt that for certain purposes, such as across-source correlation, the usefulness of item registry products will be in direct proportion to their scope. The registry should be capable of providing products as comprehensive as necessary to provide

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all requisite identifying and descriptive information about items to qualified users. The need for an authoritative item list derives from the large number of items being produced and distributed within and external to the Intelligence Community. A considerable number of these items fall into special need-to-know categories such as accorded so-called SSO and SAO materials. In response to present operating security procedures, an item list might be prepared for release at the Secret level. Several TOP SECRET supplements might also be prepared. Also consolidated lists prepared for release at appropriate security levels might also be considered. In a related field, i.e., application of dissemination controls, the ability to provide lists which are releasable to certain foreign governments or their representatives and to qualified civilian contractor organizations appears desirable.

With the foregoing exclusions and inclusions in mind, inputs to the item registry should be anticipated from CIA, DIA, NSA, other intelligence components of the DoD (including Army, Navy, Air Force and the Commands), State and AEC.

Outputs from the system will include various regularly produced catalog-type listings and answers to ad-hoc queries. Further suggested specification of processing and production is contained, below, in Section IV B (System Implementation).

B. System Implementation.

Implementation of the Item Register System will involve a sequence of functions and tasks as indicated below.

<u>Function</u>	<u>Description of Tasks</u>
(Phase I)	
1. <u>System Design</u>	Determination of reporting procedures, forms, and data file structures; computer system flow charting and programming; design of products; establishment of data codes and tables (for organizations, security classes, etc.).

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2. Data Collection Collection of examples and descriptive data on items. Formatting and transcribing of this data.
3. Initial System Operation Key punching of data, file building, production and reproduction of outputs, servicing of queries, data base maintenance.

(Phase II)

4. Evaluation Establishment of criteria, survey of users through CODIB, compilation of evaluation results, and preparation of report for CODIB on form, format, frequency and type of services, and inclusion factors.

(Phase III)

5. System Modification Establishment of changes and modification of data files, programs, and products, based on evaluation results. Collection of information on additional items as suggested by evaluation.
6. System Maintenance Institution and operation of reporting system and monitoring for deletions, additions or changes in item corpus. Production of periodic products and servicing of ad-hoc requests. Conduct of occasional further evaluation surveys.

The machine system will be capable of generating a broad spectrum of item level information in a variety of forms to suit the needs of users. Products may take the form of tabulator printer listings or punched cards or magnetic tape for further machine processing by recipients. Periodic listings may be provided by conventional reproduction methods when large numbers of copies are required.

Machine printouts may be provided in various formats designed to meet specific user needs by utilizing a report generator program. Since

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maximum fixed fielding of information is a preliminary design criterion, many different orderings of data base information may be provided (see Appendix 6 for a suggested card layout for data input). Basic orders in which item lists would normally be anticipated are

- a. by producer, alphabetic subsort by item name
- b. by category, with alphabetic subsort by item name
- c. by security classification, subsort by producer, secondary subsort alphabetic by item name
- d. by dissemination controls applied, subsort by producer, secondary subsort alphabetic by item name
- e. numerically by unique reference number
- f. possibly a permuted title index
- g. by producer, subsort by category, secondary subsort alphabetic by item name
- h. by category, subsort by producer, secondary subsort alphabetic by item name.

C. Resource Estimates.

Preliminary estimates of resources needed to perform the functions and provide the products described above are

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5
Function	Manpower-Analysts	Manpower-Programmers	Manpower-Clerical	Machine Time (based on IBM 1410)
1.	2 for 2 months	2 for 3 months	1 for 3 months	20 hrs.
2.	2 for 4 months		1 for 1 month	
3.		1 for 1 month	2 for 2 months	50 hrs. per mo. 3 mos.
4.	2 for 2 months (plus costs of evaluation by the users)		1 for 2 months	
5.	2 for 2 months	1 for 2 months	2 for 2 months	30 hrs. per mo. 2 mos.
6.	$\frac{1}{2}$ per month		$\frac{1}{4}$ per month	10 hrs. per mo.

D. Implementation Alternatives.

Gross alternative methods for performing these functions are

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1. CODIB Support Staff to perform analytic functions (column 2 above) with assistance from CIA or DIA for programming, key-punching and machine time (columns 3,4,5). This would require augmenting the CODIB Support Staff with analytic manpower as listed in Column 2 above.
2. CODIB Support Staff to monitor contractual assistance for systems analysis, surveys and programming, with machine time (Column 5) and perhaps keypunching (Column 4) assistance from CIA or DIA.
3. One agency (CIA, DIA, NSA or State) to be named to perform the whole operation as a service of common concern, with reimbursement and/or manpower inputs from other agencies.
4. One agency (CIA, DIA, NSA or State) to be named to perform the whole operation as a service of common concern without further reimbursement or manpower inputs from other agencies.
5. A new joint project staff to be established full time for the specific purpose of building and maintaining this system, with machine assistance from CIA or DIA.

Under any of the above alternatives the mode of operation can be either:

- 1) Agencies responding to questionnaires and instructions from the system unit, or
- 2) Active collection by the systems unit using CODIB representatives as access to each agency.

E. Alternatives to an Item Register System.

Sections IV A through IV D have presented a proposal for an Item Register System to fill the gaps in item control discussed in earlier sections of this paper. This section will provide a general treatment of alternative methods of attacking the problems mentioned in Section I. The alternatives to an Item Register System can be classed under two headings: promulgation of standards, and preparation of an authoritative list of indexes. No attempt has been made to list exhaustively all the different combinations of solutions possible -- most will fall under one of these two headings. Each

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is followed by a discussion indicating why the Team opted for the Item Register System.

1. Promulgation of Standards.

The Community might agree on the minimum number of elements needed for identification and description and on the exact method of representation for each element. This would represent a set of standards, which could then be promulgated by USIB. If the standards were adopted by all members of the Community for their own products, and if a working agreement were adopted for some Community members to report to all others on products originating outside the Community, then communication would be greatly facilitated and further steps, perhaps including cooperative processing arrangements which might include an authoritative item list, would be possible.

This solution would be subject to the following problems: To be of any use a set of standards must be applied. It should carry with it a plan for application. If we do not provide a plan, if we simply promulgate the standards, we can do so either by issuing the standards with no follow-up, or by providing some sort of periodic checking mechanism. Without follow-up, very little might result. It may cost each installation something to adopt the standards, and there would be no concrete way of showing each the advantages of conforming. If a periodic check is performed roughly similar results might follow. The reports from the installation might not mention all the potential applications or might state the application is inappropriate to some activities. If, however, the standards are "forced" on the activities, there is a danger that the standard elements or methods of representation will be adopted in each activity in addition to those now in use, so as to minimize the disrupting effect on existing processes or files. This might at least partially negate the benefits of standardization. It would enable the organizations better to communicate with other, as intended, but no further improvement would be possible in the local processing activities; and it is in these local activities that the ultimate pay-off for standards lies. In addition, such superimposition can represent extra cost.

If we promulgate a set of standards with an implementation plan, we face the following problems: Such a plan will require much more thorough study of each local application. This effort would be needed to cost out the effect of adoption of the standard according to a particular

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implementation plan. Unless a thorough systems study underlies the implementation plan, this alternative would still have the psychological effect of "ramming" the standards down the throats of the various activities. Also, the cost of making such a thorough systems study might be large in relation to the advantages of adopting the standard itself.

Even if we can promulgate the standard, and even if it is accepted in enough activities to make it worthwhile, we still would have the problem of updating it. Organizations, missions, and processing all change over time, so standards must have a dynamic quality. To prevent these changes from negating the good effect of standardization, alterations in the standard must be agreed on by all concerned. This requires some central monitoring and approving mechanism.

The above considerations produce somewhat of a dilemma. The result might be either 1) that standards will be given lip-service only, with resulting costs in lack of communication, lack of cross-system correlation capability, duplication of effort and the continued divergence of our systems, or 2) the application of standards alongside existing system elements, resulting in higher costs than ever, even though a possibility might exist that the divergence could be reversed.

2. Authoritative List of Indexes.

Appendices 3 and 4 contain a partial list of indexes, product surveys, and production programs prepared by various agencies. These provide substantial "local control" over "local production." However, within their limited scope they do provide the potential user with valuable insights about locally-produced products. A review of these items indicates that most of the identification/description elements discussed in section III A of this report are already included as elements in these items. Dissemination of such a list of these indexes to appropriate elements throughout the Community would undoubtedly result in some expanded awareness of "who else is doing what, and how often." This approach would respond to a number of purposes of an authoritative item list. Specifically, it would

- a. be available for reference by analysts
- b. assist in data exchange
- c. assist in communicating.

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Substantial additional effort would be necessary to make the list of indexes a useful tool to

- a. aid in describing inputs to files and their outputs,
- b. help avoid duplicative processing and production,
- c. help avoid gaps in processing and production,
- d. help predict and schedule workloads,
- e. facilitate system studies and detailed system design.

In the main, the additional effort would involve standardizing on at least the elements necessary to uniquely identify an item, the assignment of a unique reference number to line items in the indexes and categorization of line items in accordance with the category scheme described in section III A 3. This additional effort might well approximate the effort necessary to create a dynamic item registry system.

An additional step which would carry the concept of an authoritative list of indexes forward would be to request those components of the Community who do not do so to publish an index to their products. Here again they should utilize as a minimum those elements necessary to identify their products in a unique manner.

The next step in sophistication which could be undertaken would be to have each index producer standardize on the method of representing the unique identification elements. This would involve some change to existing systems. It is also noted that within given agencies where several such indexes are produced no attempt has hitherto been made to standardize on methods of representation or, even, in some cases, the elements. In any event, it is felt that the benefits of such standardization should outweigh the impact of resultant system changes.

The authoritative list of indexes is adjudged to be inadequate but would constitute a useful instrument throughout the Community, and therefore the Team considers it a definitely second-best response to its objectives.

The foregoing system alternatives in most respects approximate incremental implementation alternatives which minimize change and support requirements. These approaches will tend to delay systematic operation while providing a tool for Community use which exists today only in a fragmentary form. It is quite possible that the interface problem between "local systems" should be solved once and for all on input as proposed by the Task Team (section IV A) rather than being resolved innumerable

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times as a function of output analysis by each user each time he uses a list.

The cost of continuing divergence is not easy to estimate, whereas the cost of a given proposal must be more concrete. What are the characteristics of steps which will avoid the dilemma? They should perform a needed service not now being performed, and, through that service, help to reverse the divergence and begin a convergence which, even though slow, would be organic. We would then be letting the changes which are inevitable work for rationalization and not against it, and basing further progress on the rational motivation of the local system managers who would see the benefits to their own operations of each successive step, and take it when they need to. It should be appreciated that the implementation of standards for item identification does not in itself result in an item list, but only facilitates its creation and maintenance, which again must be done either once for the Community or duplicatively in each component.

It is submitted that the Item Register System represents a "small" step (small in relation to the cost of the Community) upon which other organic changes can be founded as time goes on. The Team therefore considers this system the "preferred" solution.

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V. Recommendations

Task Team II recommends the following actions:

A. Implement an Item Register System by performing Functions 1 through 4 in the table on page 25 of this report, by naming one agency (CIA, DIA, NSA or State) to perform the whole operation as a service of common concern, with reimbursement and/or manpower inputs from other agencies as appropriate (implementation alternative 3 on page 28).

The decision on what items to include in Functions 1 through 4 would be guided by the following:

1. Referring to the category-modifier table in Section III D of this report, only those class-modifier intersections marked with an X would be considered for inclusion.

2. Within these general inclusions, as many items will be included as the time allotted permits, subject to the following additional guidelines:

- a. Maximum coverage within the time available for items produced by USIB Agencies, provided that
- b. At least a representative minimum of items produced by non-USIB U.S. Government agencies are included and
- c. At least a representative minimum of foreign original publications are also included.

B. Subject to the results of evaluation at the end of six months (Function 4), implement Functions 5 and 6 on a continuing basis.

C. In addition, instruct the implementing organization to develop item description element standards and recommend them together with an implementation plan.

D. Disband the present CODIB Task Team II immediately. Instruct the CODIB Support Staff to advise the implementing systems unit on any problems that may arise in the performance of Functions 1 through 6.

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